Prostaglandin induction of labour in high risk pregnancies

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Numerous studies indicate that prostaglandins are of central importance in vaginal deliveries
Oxytocin is to this day the standard medication for inducing labour; meanwhile there seem to be a number of indications, where the use of prostaglandins is preferable to oxytocin. Prostaglandins (PG) are superior in cases of an immature cervix, preeclampsia, hypertonus of the mother; they are also indicated for induction of labour, where no progress can be achieved with oxytocin.
From January 1, 1982 to December 31, 1982, PG-E2 was applied intravenously to induce or bring to an end 35 of 1400 deliveries in the Gynaecological Clinic at the Medical School of Hannover. Strict criteria were applied for giving PG and it was administered only in cases of a medical indication.
In 10 cases where there were unfavourable findings, labour was primarily induced with PG (group A), in 25 cases, PG was given after a futile induction with Orasthin (group B). PG-E2 was begun as a continous intravenous drip at a dosage of 0.25 µg/min and increased to up 2 µg/min.
In 25 cases, the pregnancy could be brought to an end vaginally, in 10 cases, a delivery by caesarean section became necessary. In none of the cases could the indication for an operative delivery be brought in connection with the application of PG (6 cases of cessation of labour, 2 cases of pathological cranial presentation, 2 patients with increasing symptoms of preeclampsia).
In all cases of induced labour, the Bishop Score was below 6; the mean values of the collective are given in the table.
The duration of labour in nullipara is independent of whether or not they were prestimulated with orasthin; in multipara, the duration of labour was clearly shorter if no orasthin was given before the application of PG. Similar results were obtained if PG-E2 was applied primarily or not (107 or 89 µg without orasthin compared to 162 or 131 µg, if PG-E2 was given only sec.).

Contractures and decelerations occurred in 7 cases, but could be controlled with Partusisten®; operative deliveries were not necessary because of it.
The Apgar-Score of the new-born and the pH values of the umbilical artery showed normal values (compare table). The transfer of 4 new-born was due twice to pulmonary immaturity and twice th Rh-incompatibility.
The application of PG-E2 for a given indication is an efficient method to successfully induce a vaginal delivery in cases of immature findings. In order to allow for a safe course of labour, we consider intrauterine monitoring necessary. In many cases, operative deliveries can be avoided by this method. The risk to mother or child does not seem to be increased, as compared to inductions with orasthin.
We suggest that the primary application of PG-E2 is more advantageous for immature vaginal findings than the performance of prior futile inductions with orasthin.

	Nullipara		Para	
oxytocin before	yes	no	yes	no
number	15	5	10	5
week of pregnancy	37-41	37-41	36-41	29-37
Bishop-Score	3.0±1.7	2.8±1.8	3.0±1.7	3.0±1.8
PG-E2 (dosage ug)	162	107	131	89
duration of labour	515	465	510	315
Apgar-Score 1min	7.8	8	8	8.2
5min	9.6	9.2	9.4	9.4
10min	9.8	9.8	9.6	9.8
pH (art.)	7.29	7.33	7.29	7.31 (±0.05)
overstimulation	1	0	2	0
deceleration	2	0	1	1
caesarean section	5	1	2	2

References:

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